UNITED STATES PATENT AND TRADEMARK OFFICE

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10/622,462	07/21/2003	Masaya Hashimoto	032567-018	5231

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/622,462	HASHIMOTO ET AL.
	Examiner	Art Unit
	CHAD DICKERSON	2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _10 June 2010_.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-4 and 22_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-4 and 22_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _21 July 2003_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☒ All   b) ☐ Some *   c) ☐ None of:

   1. ☒ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments, see page 15, filed 6/4/2010, with respect to the 112 2nd

paragraph rejections have been fully considered and are persuasive. The 112 2nd

paragraph rejection of claims 1-21 has been withdrawn.

2.   Applicant's arguments filed 6/4/2010 have been fully considered but they are not

persuasive. The same references of Moro '605 and Mishima '031 are still being applied.

The reference of Campbell '622 is combined with these references to perform the

feature of concurrently compressing information while printing other data. The Applicant

stated in the remarks that the cited references do not disclose discrimination between

color and monochrome information and processing data accordingly. The Examiner

respectfully disagrees with this assertion.

        Specifically in Moro '605 ¶ [0035]-[0044], the system discloses different ways of

processing data based on this discrimination. For example, if monochrome data is

included within data, then the variable-length compression/decompression device is

used to process the image data. If color data is detected, then both the fixed and

variable-length devices are used for the compression and decompression operations.

This could not occur unless color and monochromatic data is discriminated. Also, in ¶

[0039], different input information is processed with a different set of parameters.

Monochrome data is processed with monochrome parameters as well as color data

processed with color parameters. Both of the above examples illustrate changing the

processing of data based on the color discrimination. In addition, the first example

shows how the compressing/decompressing devices allotted for processing is affected

by the types of data detected.

Therefore, in view of the above arguments and the rejection below, the Examiner

believes that the claim limitations are taught by the applied references below.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-4 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Moro (US Pub No 2004/0095605) in view of Mishima '031 (USP 6381031) and

Campbell '622 (USP 6504622).

Re claim 1: Moro '605 discloses a data processing apparatus, comprising:

an input portion (2) (i.e. the scanner (2) can be considered as an input portion

since this inputs scanned information into the system. The computer system sends

image data to the printer controller that develops this information; see fig. 4; paragraph

[0021]-[0027]);

an print portion (3) which prints the image data to a recording medium (i.e. the

printer (3) can be considered as the output portion since it outputs information out of the

system; see fig. 3; paragraph [0021]-[0027]);

a plurality of compressing/expanding devices (452 and 451) which compress

image data and expand compressed image data (i.e. in fig. 6, a plurality of

compression/decompression devices are illustrated. These devices compress the

inputted information and decompress the information to be outputted from the system.

The input originates from the scanning section (3) and is eventually output to the

printing section (3). Expansion is analogous to decompression in this invention; see

figs. 5 and 6; paragraphs [0026] and [0035]-[0038]);

a file memory (46) which stores said compressed image data compressed by the

compressing/expanding devices (i.e. the page memory (46) temporarily stores the

compressed data before it is to be decompressed before output; see fig. 6; paragraph

[0036]);

a discrimination portion which discriminates whether the print job is a print job

which makes plural prints of the image data (i.e. the CPU (40) determines or

discriminates whether inputted information is a small amount or a large amount by

measuring the amount of the data using a scale of frequency. Shown in figures 7-9 are

different frequency readings of color and monochrome data. The system evaluates

each page of the original input into the system, which can be a plurality of originals, and

outputs these pages; see fig. 7-9; ¶ [0035], 0036] and [0042]-[0044]); and

a color/monochrome discrimination portion which discriminates whether the

image data is color data or monochrome data (i.e. the system discriminates between

color and monochrome information that is input; see ¶ [0034]-[0045]); and

a compressing/expanding controller which selects one of a first mode, a second

mode, and a third mode (i.e. in the system, the CPU decides whether to use all the

compressing/expanding devices for expansion and compression or specific parts for this

operation; see ¶ [0034]-[0045]), wherein

a) in the first mode, a part of the plurality of compressing/expanding devices is

allotted to compression operation compressing/expanding devices for compressing the

image data (i.e. in the system, only the variable-length compression/expanding device

can be used to perform the compression of the input data; see ¶ [0034]-[0045]),

b) in the second mode, all of the plurality of compressing/expanding devices are

allotted to compression operation compressing/expanding devices for compressing the

image data and operated as compression operation compressing/expanding devices

(i.e. in the system, when image data is comprised of both color and monochrome

information, all the compression/expansion devices can be used for the compression

operation; see ¶ [0034]-[0045]), and

c) in the third mode, all of the plurality of compressing/expanding devices are

allotted to expansion operation compressing/expanding devices for expanding the

image data and operated as expansion operation compressing/expanding devices (i.e.

the system determines that the data may contain both color and monochrome

information that is compressed and this data is decompressed by both decompression

devices; see ¶ [0034]-[0045]),

wherein in cases where it is discriminated by the discrimination portion that the

print job is a print job which makes plural prints of the image data and the

color/monochrome discrimination portion discriminates that the image data is

monochrome data (i.e. in the system, the input data can be comprised of a print job with

a plurality of pages to be printed and the system can determine if the image data is

either monochrome or color. The system processes the information differently if it is

discriminated as monochrome; see ¶ [0033]-[0045]),

the plurality of compressing/expanding devices are operated in the first mode

(i.e. the system can operate in a first mode that requires one of the

compression/decompression devices to perform the compression operation; see ¶

[0034]-[0045]), and

the image data is transferred to the part of the compression operation

compressing/expanding devices as image data for a first print, second and subsequent

prints (i.e. the image data that is input is transferred to the compression/decompression

devices for compression of image data. Since the image data can contain several

pages, the compression of a plurality of pages are performed; see ¶ [0034]-[0045]), and

wherein in cases where it is discriminated by the discrimination portion that the

print job is a print job which makes plural prints of the image data and it is discriminated

by the color/monochrome discrimination portion that the image data is color data (i.e. in

the system, the input data can be comprised of a print job with a plurality of pages to be

printed and the system can determine if the image data is either monochrome or color.

The system processes the information differently if it is discriminated as monochrome;

see ¶ [0033]-[0045]),

the plurality of compressing/expanding devices are operated in the second

mode (i.e. in the system, all the compressing devices can be used for the compression

operation when monochrome and color information is introduced for processing; see ¶

[0033]-[0045]), and

the image data is transferred to the print portion as image data for a first print (i.e.

the image data, after compression, is transferred to further processing units and then

sent to the output portion for printing; see ¶ [0033]-[0045]), and

concurrently the image data is transferred to all of the compression operation

compressing/expanding devices as image data for second and subsequent prints.

However, Moro '605 fails to specifically teach a part of the plurality of

compressing/expanding devices is allotted to compression operation

compressing/expanding devices for compressing the image data and the other part or

remaining compressing/expanding devices are allotted to expansion operation

compressing/expanding devices for expanding the image data, and the compression

operation compressing/expanding devices and the expansion operation

compressing/expanding devices compressing/expanding devices are operated in

parallel, and concurrently the image data is transferred to all of the compression

operation compressing/expanding devices as image data for second and subsequent

prints.

However, this is well known in the art as evidenced by Mishima '031. Mishima

'031 discloses a part of the plurality of compressing/expanding devices is allotted to

compression operation compressing/expanding devices for compressing the image data

and the other part or remaining compressing/expanding devices are allotted to

expansion operation compressing/expanding devices for expanding the image data (i.e.

the system of Mishima is similar to both inventions of So and Moro in the manner in

which all three systems contain multiple compression and expansion devices that

operate in the image forming system (same field of endeavor). However, in the system

of Mishima, compression/expander processors are set for compression and expansion.

When image data is stored in and read from memory unit (13) two of the processors

that operate in parallel are set for compression while the other two are set for

expansion. This performs the above feature of having less than all of and at least some

of the plurality of compressing/expanding devices used in the system for compression

and expansion; see col. 5, lines 1-65), and

the compression operation compressing/expanding devices and the expansion

operation compressing/expanding devices compressing/expanding devices are

operated in parallel (i.e. when the system uses a certain number of processors to

perform compression and decompression, the processors perform the compression and

decompression operations in parallel with their adjacent processor; see col. 5, lines 1-

65).

Therefore, in view of Mishima '031, it would have been obvious to one of ordinary

skill at the time the invention was made to have the features of a part of the plurality of

compressing/expanding devices is allotted to compression operation

compressing/expanding devices for compressing the image data and the other part or

remaining compressing/expanding devices are allotted to expansion operation

compressing/expanding devices for expanding the image data, and the compression

operation compressing/expanding devices and the expansion operation

compressing/expanding devices compressing/expanding devices are operated in

parallel, incorporated in the device of Moro '605, in order to perform compression and

expansion with a certain number of devices according to the amount of data to be

compressed and expanded (as stated in Mishima '031 col. 2, lines 20-44).

However, the combination of Moro '605 and Mishima '031 fails to specifically

teach concurrently the image data is transferred to all of the compression operation

compressing/expanding devices as image data for second and subsequent prints.

However, this is well known in the art as evidenced by Campbell '622. Campbell

'622 discloses concurrently the image data is transferred to all of the compression

operation compressing/expanding devices as image data for second and subsequent

prints (i.e. the system of Campbell performs the feature of compressing and

decompressing image data before printing, which is similar to the Moro reference (same

field of endeavor). However, during the duplex printing operation, the system performs

compression of raster graphics to maximize the amount of memory available in the

system. Also, the system is able to print information while accepting information that

has been compressed into the pre-allocated buffers; col. 4, ll. 57-col. 6, ll. 25 and col.

10, ll. 1-23).

Therefore, in view of Campbell '622, it would have been obvious to one of

ordinary skill at the time the invention was made to have the feature of concurrently the

image data is transferred to all of the compression operation compressing/expanding

devices as image data for second and subsequent prints, incorporated in the device of

Moro '605, as modified by Mishima '031, in order to have data compressed while other

data is being printed in the system (as stated in Campbell '622 at col. 10, ll. 1-23).

Re claim 2: The teachings of Moro '605 in view of Mishima '031 and Campbell '622 are

disclosed above.

Moro discloses the data processing apparatus, further comprising a

compressing/expanding controller,

wherein, in cases where the plurality of compressing/expanding devices are

operated in the first mode (i.e. when the data is determined to be small, or

monochrome, the CPU (40) assigns the variable-length compression device to

compress the image data. This is considered as a part of more than one

compressing/expanding device that is used to compress and expand information; see

fig. 6; paragraph [0035] and [0036]).

However, Moro '605 fails to specifically teach depending on information amount

of the image data, the number of compressing/expanding devices to be allotted to

compression operation compressing/expanding device and the number of

compressing/expanding devices to be allotted to expansion operation

compressing/expanding devices are changed.

However, this is well known in the art as evidenced by Mishima '031. Mishima

'031 discloses depending on information amount of the image data, the number of

compressing/expanding devices to be allotted to compression operation

compressing/expanding device and the number of compressing/expanding devices to

be allotted to expansion operation compressing/expanding devices are changed (i.e. the

number of compressing and expanding devices are set for the most efficient data

transfer. The CPU sets a certain number for expansion and compression depending on

the amount of data to be processed; see col. 5, ll. 1-67).

Therefore, in view of Mishima '031, it would have been obvious to one of

ordinary skill at the time the invention was made to have the features depending on

information amount of the image data, the number of compressing/expanding devices to

be allotted to compression operation compressing/expanding device and the number of

compressing/expanding devices to be allotted to expansion operation

compressing/expanding devices are changed, incorporated in the device of Moro '605,

as modified by the features of Campbell '622, in order to perform compression and

expansion according to the amount of data to be compressed and expanded (as stated

in Mishima '031 col. 2, lines 20-44).

Re claim 3: The teachings of Moro in view of Mishima '031 and Campbell '622 are

disclosed above.

Moro discloses the data processing apparatus as recited in claim 1, wherein the

image data transferred to the part of compression operation compressing/expanding

devices as image data for the first print, second and subsequent prints is compressed

by the part of compression operation compressing/expanding devices and stored in the

file memory (i.e. when a document has several originals that are scanned or input in the

system to be processed and outputted, the system performs the feature of determining

if the current image being processed and outputted is the first, second or third set of

image data being processed. These initial inputs are compressed by the compression

devices. The CPU (40) transfers the data inputted into the system to the variable-length

compression device, and then it is sent to the page memory (46) for temporary storage;

see fig. 6; paragraphs [0035]-[0038] and [0057]).

However, Moro '605 fails to teach thereafter the compressed image data stored

in the file memory is transferred to the other part or remaining expansion operation

compressing/expanding devices and expanded, and the expanded image data is

transferred to the print portion to be printed.

However, this is well known in the art as evidenced by Mishima '031. Mishima

'031 discloses thereafter the compressed image data stored in the file memory is

transferred to the other part or remaining expansion operation compressing/expanding

devices and expanded, and the expanded image data us transferred to the print portion

to be printed (i.e. in the system, compression/expander processors are set for

compression and expansion. When image data is stored in and read from memory unit

(13) two of the processors that operate in parallel are set for compression while the

other two are set for expansion. This performs the above feature of having other

compressing/expanding devices perform the expansion process. Also, after the

expansion process, the image data is printed; see col. 5, lines 1-65).

Therefore, in view of Mishima '031, it would have been obvious to one of ordinary

skill at the time the invention was made to have the feature thereafter the compressed

image data stored in the file memory is transferred to the other part or remaining

expansion operation compressing/expanding devices and expanded, and the expanded

image data us transferred to the print portion to be printed, incorporated in the device of

Moro '605, in order to perform compression and expansion according to the amount of

data to be compressed and expanded (as stated in Mishima '031 col. 2, lines 20-44).

Re Claim 4: The teachings of Moro in view of Mishima '031 and Campbell '622 are

disclosed above.

Moro '605 discloses the data processing apparatus as recited in claim 1,

        wherein in cases where it is discriminated by the discrimination portion that the

print job is a print job which makes plural prints of the image data and that it is

discriminated by the color/monochrome discrimination portion that the image data is

color data (i.e. in the system, the input data can be comprised of a print job with a

plurality of pages to be printed and the system can determine if the image data is either

monochrome or color. The system processes the information differently if it is

discriminated as monochrome; see ¶ [0033]-[0045]),

        the image data transferred to all of compression operation

compressing/expanding devices as image data for second and subsequent prints is

compressed by all of the compression operation compressing/expanding devices and

stored in the file memory (i.e. when the system determines that color data and

monochrome data are together within the print information, all the compressing devices

are used to compress the input data; ¶ [0033]-[0045]), and thereafter

and the expanded image data is transferred to the print portion to be printed (i.e. once the image data is decompressed, the image data is then sent to the printer portion for output; see ¶ [0033]-[0045]).

However, Moro '605 fails to specifically teach the plurality of compressing/expanding devices are operated in the third mode, the compressed image data stored in the file memory is transferred to all of expansion operation compressing/expanding devices and expanded.

However, this is well known in the art as evidenced by Mishima '031. Mishima '031 discloses the plurality of compressing/expanding devices are operated in the third mode, the compressed image data stored in the file memory is transferred to all of expansion operation compressing/expanding devices and expanded (i.e. the system of Mishima discloses using a plurality of expanding devices to expand the information. The system also discloses using all the compression/expansion devices to expand the print information for efficient data transfer; see col. 5, ll. 1-65).

Therefore, in view of Mishima '031, it would have been obvious to one of ordinary skill at the time the invention was made to have the feature thereafter the plurality of compressing/expanding devices are operated in the third mode, the compressed image data stored in the file memory is transferred to all of expansion operation compressing/expanding devices and expanded, incorporated in the device of Moro '605, in order to perform compression and expansion according to the amount of data to be compressed and expanded (as stated in Mishima '031 col. 2, lines 20-44).

Re Claim 22: The teachings of Moro in view of Mishima '031 and Campbell '622 are

disclosed above.

Moro '605 discloses an image forming apparatus, comprising the data processing

apparatus of claim 1 (i.e. since the device in Moro processes data or information, it can

be considered as a data processing apparatus; see ¶ [0035]-[0045]).

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

6.   Tsuboi (USP 5317416) discloses a facsimile apparatus with a page printer

having reduced memory capacity requirements. The system involves reading image

data through the scanner and compressing image data while concurrently recording an

image at the printing portion of the image forming apparatus (see col. 9, ln 11-47).

7.   Kawasaki '828 (USP 5969828) discloses an invention that compresses and

expands blocks of image data simultaneously and prints the blocks as soon as they

reach the printing buffer. This allows for a first block to be expanded concurrently with a

second block being compressed. Eventually, the first block will be printed while the

third block is compressed and the second block being expanded.

8.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Twyler Haskins can be reached on (571) 272-7406. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. D./
/Chad Dickerson/
Examiner, Art Unit 2625

/Twyler L. Haskins/
Supervisory Patent Examiner, Art Unit 2625